BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF HAWAII

- - - - In the Matter of the Application of --)	PUC Docket 2008-0273
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)	
PUBLIC UTILITIES COMMISSION)	
)	
Instituting a Proceeding to)	
Investigate the Implementation)	
Of Feed-In Tariffs)	
)	

LIFE OF THE LAND'S

FIT COMMENTS,

PROPOSED HAWAI`I ISLAND INDEPENDENT SYSTEM OPERATOR

&

CERTIFICATE OF SERVICE

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Aloha Commissioners,

The Utilities have proposed a confusing, self-contradictory, and vague queuing process for Feed-In Tariff projects that does not make sense. Therefore Life of the Land is proposing an alternative solution, one that can be a win-win for all the parties.

FEED-IN TARIFFS: LEGISLATIVE BACKGROUND

Erik Kvam of Zero Emissions Leasing drafted the first feed-in tariff bill for consideration by the Hawai'i State Legislature. His testimony is informative[1]:

> The purpose of a feed-in tariff is to encourage private investment in Hawaii solar electricity production by setting the feed-in tariff rate so that an investor receives an attractive and predictable return on such investment over a 20-year term. The feed-in tariff has been proven in Germany to be the most cost-efficient incentive ever devised for rapid development of solar electricity production.
>
> The German feed-in tariff for solar electricity from large rooftop systems was set in August 2004 at about .55 euros per kWh, equivalent to about 72 cents per kWh today. By the end of 2005, the German feed-in tariff had led to the installation of more than 600 MW of solar electricity generation in Germany, at a monthly extra cost of less than .30 euros, or about 40 cents, per household. The German feed-in tariff has been so successful that most of the nations of Europe, together with nations like Japan, China and South Korea and the Canadian province of Ontario, are adding feed-in tariffs to their portfolios of renewable energy incentives. ...
>
> The Feed-in Tariff Is Cost-Efficient: The feed-in tariff is cost-efficient because it encourages cost-efficient development, siting and maintenance of large solar power systems.

[1] Erik Kvam. Testimony re Feed-In Tariffs: SB 1223 Relating to Solar Energy before the Senate Committee on Energy and Environment, February 12, 2007

> Because the feed-in tariff fixes the expected revenue stream from a solar electricity project, the return from the project, to the investor, is maximized by increasing the scale of the project to decrease the cost per kilowatt-hour, to the investor, of solar electricity produced by the project. ... The feed-in tariff is cost-efficient because it is transparent. All interested parties – ratepayers, utilities, legislators and regulators – know precisely the amount and cost of the solar electricity production encouraged by the feed-in tariff, because the solar electricity is purchased by the public utility. Such transparency greatly reduces any potential for abuse of the feed-in tariff.
>
> The Feed-in Tariff Is Flexible: Like the German feed-in tariff statute, the bill provides that the state agency responsible for electrical energy development may propose, to the legislature, adjustments in the feed-in tariff rate to reflect technological progress or market developments in solar electricity production. The transparency of the feed-in tariff means that the state energy coordinator and the legislature will have accurate information in assessing the need for any such adjustments. If it is later realized, based on the amount of new solar electricity production, that the feed-in tariff rate was either too generous, or not generous enough, in encouraging such production, the legislature could act to adjust the feed-in tariff rate in line with the proposal by the state energy coordinator. ...
>
> A feed-in tariff would be more effective than the present Hawaii renewable energy technology tax credit in stimulating solar electricity development. ... The feed-in tariff would create jobs in Hawaii. Figures from the Solar Energy Industries Association show that each 1 MW of installed solar power supports 32 jobs, and that 8 of those jobs are created in the community where the solar power systems are installed. Such community jobs include the design, engineering, installation and maintenance of the systems.

FEED-IN TARIFFS: HAWAIIAN ELECTRIC

On October 20, 2008, the Governor of the State of Hawai`i, the State of Hawai`i Department of Business, Economic Development and Tourism ("DBEDT"), the

State of Hawai`i Division of Consumer Advocacy of the Department of Commerce and Consumer Affairs ("Consumer Advocate"), and the Hawaiian Electric Companies ("HECO Companies") entered into a comprehensive agreement designed to move the State away from its dependence on imported fossil fuels for electricity and ground transportation, and toward "indigenously produced renewable energy and an ethic of energy efficiency."

Included in the Agreement was a commitment by the HECO Companies to implement feed-in tariffs "to dramatically accelerate the addition of renewable energy from new sources" and to "encourage increased development of alternative energy projects." A feed-in tariff is a set of standardized, published purchased power rates, including terms and conditions, which the utility will pay for each type of renewable energy resource based on project size fed to the grid.

FEED-IN TARIFFS: REGULATORY BACKGROUND

On October 24, 2008 the Commission initiated an investigation to examine the implementation of feed-in tariffs. The Commission named parties HECO, MECO, HELCO and the Consumer Advocate.

On October 29, 2008 the Commission established the overall schedule *(timeline) to govern the remainder of this proceeding. The timeline went from* November 18, 2009 to May 13, 2010.

On November 28, 2008 the Commission expanded the list of parties and participants to include: the Department of Business, Economic Development, and Tourism ("DBEDT"); the City and County of Honolulu ("C&CH"); County of Hawai`i ("COH"); Life of the Land ("LOL"); Haiku Design and Analysis ("HDA"); the Hawaii Renewable Energy Alliance ("HREA"); Blue Planet Foundation ("BPF"); Hawaii Solar Energy Association ("HSEA"); The Solar Alliance ("SA");

Hawaii Bioenergy, LLC; Sempra Generation; Maui Land & Pineapple Company, Inc. ("MLP"); Zero Emissions Leasing LLC ("ZEL"); Sopogy Inc.; Hawaii Holdings, LLC, doing business as First Wind Hawaii; Clean Energy Maui LLC ("CEM"); Tawhiri Power LLC; and Alexander & Baldwin, Inc. ("A&B") through its division, Hawaiian Commercial & Sugar Company ("HC&S").

On January 6, 2009 the Commission approved Protective Order, allowing parties access to documents that are not available to the public.

On January 20, 2009 the Commission approved a Procedural Order establishing the issues and the schedule (timeline) for events between December 23, 2008 and July 17, 2009.

STATEMENT OF ISSUES

Purpose of Project-Based Feed-In Tariffs (PBFiTS)

1. What, if any, purpose do PBFiTs play in meeting Hawaii's clean energy and energy independence goals, given Hawaii's existing renewable energy purchase requirements by utilities?

2. What are the potential benefits and adverse consequences of PBFiTs for the utilities, ratepayers and the State of Hawaii?

3. Why is or is not the PBFiT the superior methodology to meet Hawaii's clean energy and energy independence goals?

Legal Issues

4. What, if any, modifications are prudent or necessary to existing federal or state laws, rules, regulations or other requirements to remove any barriers or to facilitate the implementation of a feed-in tariff not based on avoided costs?

5. What evidence must the commission consider in establishing a feed-in tariff and has that evidence been presented in this investigation?

Role of Other Methodologies

6. What role do other methodologies for the utility to acquire renewable energy play with and without a PBFiT, including but not limited to power purchase contracts, competitive bidding, avoided cost offerings and net energy metering?

Best design for a PBFiT or alternative method

7. What is the best design, including the cost basis, for PBFiTs or other alternative feed-in tariffs to accelerate and increase the development of Hawaii's renewable energy resources and their integration in the utility system?

Eligibility Requirements

8. What renewable energy projects should be eligible for which renewable electricity purchase methods or individual tariffs and when?

Analysis of the cost to consumers and appropriateness of caps

9. What is the cost to consumers and others of the proposed feed-in tariffs?

10. Should the commission impose caps based upon these financial effects, technical limitations or other reasons on the total amount purchased through any mechanism or tariff?

Procedural Issues

11. What process should the commission implement for evaluating, determining and updating renewable energy purchased power mechanisms or tariffs?

12. What are the administrative impacts to the commission and the parties of the proposed approach?

On March 27, 2009 the Commission established that the Prehearing Conference would occur on April 6, 2009 at the Commission Hearing Room and the Panel Discussions would occur from April 13, 2009 - April 17, 2009 at the Honolulu Country Club, Salt Lake. The Country Club would provide a venue big enough to house all of the parties and their representatives.

On April 1, 2009 the Commission established the Hearing Procedure.

On September 25, 2009 the Commission issued a Decision and Order:

> Given Hawaii's overdependence on imported fossil fuels for its current electric generation, and the clear benefits a FIT can provide, the commission finds that a FIT should be adopted in Hawaii. There is no other state in the nation that is as dependent on oil as Hawaii is. That oil, which is the primary source of our electric generation, is imported into our State and comes from countries that may not be sympathetic to U.S. interests. A procurement mechanism, such as a FIT, may accelerate the acquisition of renewable energy onto the HECO Companies' systems thereby reducing our State's overall dependence on foreign oil; and produce some certainty as the price of electricity will no longer be as heavily tied to volatile oil prices. A process that is predictable in setting forth the essential terms under which renewable energy will be purchased by the utilities will, as SA and HSEA assert, reduce "the risk, and hence the cost, of non-utility generated power" and provide economic growth through "green collar" jobs and reduced export of dollars earned to purchase fossil fuels. (pages 15-16)
>
> the commission will direct the HECO Companies to adopt FITs in their respective service territories. (page 17)
>
> The adoption of FITs raises the issue of the role of existing renewable procurement mechanisms, such as NEM [Net Energy Metering], competitive bidding, negotiated power purchase agreements ("PPAs")," Schedule Q, and avoided

cost offerings, in the procurement of renewable generation in Hawaii. In the commission's view, FITs provide an additional and complementary option to existing and future renewable resource procurement mechanisms, and should not result in replacement of any existing mechanisms. The commission, however, may revisit this issue in connection with the first FIT reexamination in two years. (pages 17-18)

the consensus of the parties is that the initial FIT should include, at a minimum, PV [Photovoltaic], onshore wind, in-line hydropower, and CSP [Concentrated Solar Power[2]] projects. The commission agrees that PV, onshore wind, in-line hydropower should be included as they are mature technologies with experience in Hawaii, and thus would be able to provide cost and performance information. The HECO Companies and the Consumer Advocate have also indicated that these technologies do not present unacceptable land use and permitting challenges, accounting problems, or "system interconnection difficulties. As such, these technologies can immediately contribute to meeting Hawaii's renewable energy and fossil fuel independence goals in a reliable and cost-effective manner. (pages 31-32)

In determining project size limits, the commission favors a middle ground between the parties, articulated by SA/HSEA, DBEDT, and others as the competitive bidding threshold of 5 MW for Oahu and 2,72 MW each for Maui and Hawaii. To be precise, the exemption from competitive bidding is for "generating units with a net output available to the utility of 1% or less of a utility's total firm capacity, including that of independent power producers, or with a net output of 5 MW or less, whichever is lower." For MECO, the system firm capacity is considered on a consolidated basis such that, at the time of the filing of the Framework, the 2.72 MW for MECO was derived as follows: 1% of 250 MW + 10.4 MW + 12 MW. (page 41)

the commission will limit additional wind generation projects (up to 100 kW) on the HELCO and MECO systems for purposes of eligibility for the initial FIT. In addition, the commission will reiterate the HECO Companies' continuing obligation to ensure system reliability. As such, the HECO Companies maintain the ability and obligation to refuse to interconnect projects that will substantially compromise

[2] Photovoltaic is solar electric while Concentrated Solar Power is solar thermal

reliability or result in an unreasonable cost to ratepayers. For instance, based on the reliability standards discussed below, the utility could determine that projects above certain sizes or using certain technologies are not possible in certain locations without degrading reliability or necessitating costly system upgrades. As discussed below, the utility need not interconnect projects that would likely face significant curtailment or cause significant curtailment for existing renewable energy generators. However, when the utility rejects applications for projects smaller than the maximum FIT size limits, it must file a detailed report with the commission describing why the project is not feasible and should not be interconnected." (page 44)

As pointed out by LOL, there has been little information provided by developers on Hawaii-specific project costs, despite the commission's request; and "[e]vidence regarding rate impacts is entirely missing." Likewise, HAD [HDA] notes that "[s]ince aggressively priced FiTs would require utilities to accept large or unlimited amounts of renewable generation projects by tariff without project by project review and approval, it is necessary to ensure that the FiT design and terms, {caps, limits or conditions) prevent undue burdens on the utility or result in uneconomic resource procurement." (page 52)

The FIT'S initial caps will be nameplate capacity equal to 5% of 2008 peak demand for each of the HECO Companies. The commission finds that these cap levels are appropriate because they are large enough to facilitate the development of a variety of projects, but at a measured pace. It is also particularly important that the caps will limit potential ratepayer effects; although the limitation will be variable depending on the technology and their respective rates. (page 55)

Here, the commission declines to dictate specific queuing and interconnection procedures for FIT projects at this time. Instead, the commission will direct the HECO Companies to collaborate with the other parties to craft queuing and interconnection procedures that will minimize delays associated with numerous potential FIT projects and the various interconnection studies they could require. Such procedures should include project development milestones to advance in the queue and deposits for applicants. Queuing and interconnection procedures should also include a

> mechanism for applicants to apply for extensions for the amount of time needed to meet project development milestones prior to dropping from the queue or forfeiting their deposits. Such procedures should mitigate the added risks associated with required deposits but maintain the incentive for only viable projects to apply for interconnection studies. (pages 92-93)

On November 25, 2009 the Commission approved a list of Independent Observer Candidates proposed by the Utility. On January 28, 2010 the Commission approves the Feed-in Tariff Third Party Services Agreement between Hawaiian Electric Company, Inc. C'HECO") and Accion Group - Harold T. Judd, to oversee the queuing process for feed-in tariff projects.

On February 17, 2010 the Commission informed the parties that in addition to the National Regulatory Research Institute, the National Renewable Energy Laboratory ("NREL") will be assisting the Hawai`i Public Utilities Commission ("Commission") with the remainder of this proceeding. Specifically, Karlynn Cory and Claire Kreycik of NREL will be assisting the Commission through the DOE/NARUC project, Solar Energy Analysis for the States.

On February 19, 2010 the Commission directed that "the HECO Companies to further elaborate on their deferment proposals, including, how and when will appropriate mitigation measures be identified and employed, and on their proposal to convene a Reliability Standards Working Group

On February 19, 2010 the Commission filed information requests ("IRs") prepared by the Commission's consultants, the National Regulatory Research Institute and the National Renewable Energy Laboratory

On February 23, 2010 HECO informed the Commission of a proposed extension in deadlines: (1) Parties Responses to Information Requests on

Reliability Standards and Queuing and Interconnection Procedures (March 1,2010); (2) Parties Comments on the Queuing and Interconnection Procedures (March 8, 2010); (3) Parties Comments on the Reliability Standards (March 23, 2010); (4) Parties Comments on the Reliability Standards Working Group would be filed with the Commission on (March 15,2010).

CONFLICT OF INTEREST

In recent years the Commission has examined the role of the utility in four areas where there is the appearance of a conflict of interest and where efficiency would be increased by removing the utility from certain functions. These four regulatory proceedings are: Investigation of Restructuring (1996-0493), Distributed Generation (2003-0371), Energy Efficiency (2005-0069) and Feed-In Tariffs (2008-0273). In this docket the Commission should go the distance with a demonstration restructuring project in Hawai`i County.

INVESTIGATION OF RESTRUCTURING

The Commission opened 1996-0493 to examine Restructuring.

"In December 1996, the Commission opened a docket to identify and examine the issues surrounding electric industry competition and to determine the impact of competition on the State's electric utility infrastructure. "[3] The issues included: Identification of the State's needs, policies, and objectives that may be supported by competition in the electric utility industry."[4] The 19 parties and participants were unable to reach consensus.

"On October 14, 1998, a Joinder was submitted to the PUC expressing Hawaii County support for the Statement of Position of the Counties of Maui and

[3] PUC Annual Report. Fiscal Year 1996-97. p. 6
[4] Hawaii Climate Change Action Plan (November 1998) pdf page 137; ttp://hawaii.gov/dbedt/info/energy/publications/ccap.pdf

Kauai that emphasized restructuring of the retail energy services market and County interests in any utility restructuring program."[5]

LOL's Initial Statement of Position, dated March 31, 1997, stated:

> "Structure of the grid. The most effective form of competition is where the grid is independent of any power producer. The grid would be owned by a Transmission Company ("TCo") and managed by an Independent System Operator ("ISO") who might be a TCo. The TSo and ISO would be totally independent of all Independent Power Producers ("IPP"). For this to occur, the current power producers would need to either (a) sell their grids; or (b) spin off their grids (i.e., create a new independent company through a stock split)."[6]

The docket was closed in October 2003.

DISTRIBUTED GENERATION

The Commission opened docket 2003-0371 to examine issues surrounding Distributed Generation (DG). Life of the Land's Statement of Position, dated May 7, 2004, stated:

> "Distributed Generation projects, like central station projects, must be owned and operated by Independent Power Producers (IPPs). It is in the economic self-interest of the utility to use its resources to stymie Independent Power Producers. During the years of delay, the utility makes money, while the investor loses money. One way of delaying IPPs is by dragging out the negotiations regarding Interconnection Agreements and Power Purchase Agreements. The delays can be subtle: changing terms of contracts, raising new issues, delaying responses, offering financial deals customers who stay with the utility, etc. Some have suggested firewalls between different functions within the utility. Utility firewalls have not worked in Hawai'i. The only reasonable solution is divestiture. Utilities must separate into two companies via a stock split or the utilities must divest themselves of generation. The new

[5] www.hawaii-county.com/annual_reports/annual98_99/r&d01.htm
[6] LOL SOP, page 3

> generation company would simply be another unregulated Independent Power Producer. The new transmission and distribution company (T&DCO) would be regulated. The controversial issue of the true avoided cost disappears once the T&DCO is separated from all IPPs. Currently the commission receives funding from utilities but not from IPPs. If utility generation divisions are spun off, the total funds to the commission would decrease. To maintain a constant level of funding, the commission could impose a per kilowatt-hour fee on all sales to the grid (excluding Net Metering arrangements)."[7]

The Commission Decision & Order No. 22248, dated January 17, 2006 stated:

> In weighing the advantages and disadvantages of allowing a utility to provide distributed generation services and own and operate a distributed generation project on a customer's site, the commission finds that the disadvantages outweigh the advantages and the utility should not be allowed to regulated service, except under the circumstances described herein. Ideally, an effectively competitive distributed generation market requires the presence of multiple, viable sellers who are aggressively vying for customers, while operating independently from the utility and conducting their transactions through arm's length relationships with the utility. ...The HECO Utilities represent that they need additional capacity in the short term. ...the HECO Utilities are the only entities immediately able to meet the State's capacity needs and to deploy distributed generation to do so. It would not be in the public interest to exclude the HECO Utilities from providing distributed generation services at this early stage of distributed generation market ...the commission concludes that utilities should be allowed to participate in the customer-sited distributed generation market ...upon a showing that: (a) the proposed distributed generation project would resolve a legitimate system need; (b) it is the least cost alternative to meet that need; and (c) in an open and competitive process acceptable to the commission, the customer-generator was unable to find another entity ready and able to supply the proposed distributed generation

[7] LOL SOP, pages 21-22

service at a price and quality ...comparable to the utility's offering.

ENERGY EFFICIENCY

The Public Utilities Commission ("Commission") opened docket 05-0069 to examine statewide energy efficiency programs and allowed over a dozen parties and participants in the regulatory proceeding. The Preliminary Statement of Positions were filed on March 1, 2006 at which time Life of the Land was the *only intervenor to call for an energy efficiency utility to take over energy* efficiency programs from the utility.

Subsequently, the Non-Utility Market Structure was supported by the Consumer Advocate, Hawaii Renewable Energy Association, Life of the Land, and the County of Maui with no opposition from the Department of Defense.[8]

Life of the Land's Final Statement of Position was filed on June 1, 2006. "LOL proposes that the Hawai'i PUC issue a Request For Proposal ("RFP") to establish an efficiency utility to administer energy efficiency programs. There would be one statewide energy efficiency utility ...The cleanest way is for Load Management programs to stay with the utility."[9]

The Commission supported the position that energy efficiency programs (excluding load management) should be transferred to an Energy Efficiency Utility.

> "In the commission's view, the Non-Utility Market Structure for administering Energy Efficiency programs is the most appropriate for the HECO Companies. First, the Non-Utility Market Structure will remove the perceived inherent conflict between a utility's desire to generate revenues and income,

[8] Decision and Order No. 23258, page 33, dated February 13, 2007

[9] LOL Final Statement of Position, page 7

> and Energy Efficiency measures that serve to decrease sales and defer the need for additional plant investment ...Second, the commission expects that DSM program administration by a new entity will facilitate the introduction of innovative Energy Efficiency programs to the State, resulting in greater customer choice, increased participation levels, and higher overall energy savings."[10]

This transformation has occurred over the past year.

HAWAI`I ISLAND INDEPENDENT SYSTEM OPERATOR ("HIISO")

The "Hawai`i Island Independent System Operator" ("HIISO") would be established.

Requirements

(1) Utility Buy-in
(2) Rapid increase in renewable energy
(3) No increase in curtailment of existing renewable resources
(4) Fair and equal grid access for all energy resources
(5) Peak shaving through renewable energy and energy efficiency
(6) No legislation needed in the initial implementation phase

Implementation

The Big Island transmission and distribution grid would be owned and managed by HELCO but policy would be determined by a Commission appointed administrator called the "Hawai`i Island Independent System Operator" ("HIISO").

[10] Id. Pages 35-36

The HIISO would be responsible for system planning, resource procurement, determining system reliability, appearing before legislative committees and the PUC regarding any investigations of power outages, making decisions about contract queuing, resource commitment and dispatch, and conducting Integrated Resource Planning/Clean Energy Scenario Planning ("IRP/CESP").

HIISO would oversee any need to expand the grid and would deal with the regulatory process for any upgrades needed. HIISO would open an ongoing docket to examine reliability standards based on a Hawai`i-specific modification of the NERC Standards. HIISO would operate in an open and transparent way.

The HIISO Advisory Group would consist of energy providers, Feed-In Tariff intervenors, and HELCO Integrated Resource Planning ("IRP") Members. The U.S. Department of Energy, the National Renewable Energy Laboratory ("NREL"), the Hawaii Natural Energy Institute ("HNEI"), the University of Hawai`i, Manoa, the University of Hawai`i, Hilo, and the County of Hawai`i and others would be encourage to lend their expertise so that Hawai`i can achieve its vision of energy independence.

The HIISO would handle all new power purchase contracts and other inter-connections including net energy metering and feed-in tariffs. The HIISO would have access to HELCO's Energy Management System ("EMS") and interface with HELCO through HELCO's EMS Supervisor.

HELCO would continue to operate its own generators and would implement the policies and directives of HIISO. Because HELCO would not have any policy control over the grid, or any determination of the amount of electricity supplied by different energy providers, HELCO would be free to enter into competitive markets to supply, own, and/or operate systems, including, but not limited to, cogeneration, Net Energy Metering and Feed-In Tariff Distributed Generation.

The Consumer Advocate would represent consumers before the HIISO and must be independent of each energy provider.

Hawai`i Energy Efficiency Program ("HEEP") would assist HIISO in developing demand response and load management programs.

The Commission would oversee the HIISO and the HEEP in similar ways and would continue to regulate HELCO in a less intense way until some future action occurred which might result in a wide range of long term solutions running the gamut from returning to the business as usual model to making HELCO an Independent Power Producer. The Commission must continue to enforce due process and full transparency requirements, to assure equal access to all system data for all participants, and the establishment of a time-line to accomplish this transformation.

The transmission access fee would cover the cost of the HIISO and any personnel and consultants that the Commission would have to hire.

If there is one place in the US that can truly benefit from industry restructuring, it is the Big Island. All options should be on the table: generation alternatives, energy storage devices, demand response, energy efficiency, load shifting techniques, and transmission upgrades.

March 8, 2010

Henry Q Curtis

HENRY Q CURTIS
VICE PRESIDENT FOR CONSUMER ISSUES

Certificate of Service

I hereby certify that I have this date served a copy by hand delivery of the foregoing LIFE OF THE LAND'S FIT COMMENTS and PROPOSED HAWAI'I ISLAND INDEPENDENT SYSTEM OPERATOR in PUC Docket Number 2008-0273, upon the following parties. I have hand delivered the original and 8 copies to the PUC, and two copies to the Consumer Advocate and e-mailed a copy to each other party listed below.

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